

# Complaints of insomnia in hospitalized alcoholics

## Quejas de insomnio en alcohólicos hospitalizados

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### Abstract

**Objective:** To estimate the prevalence of insomnia complaints in a population of alcoholics hospitalized in addiction clinics in Bogotá. **Method:** Alcoholic patients hospitalized for detoxification in addiction clinics were recruited. Design: observational, descriptive and cross-sectional study. Data gathered by means of clinical interviews and measuring scales: Pittsburgh Sleep Quality Index and the Zung Self-rating Anxiety and Depression scales. **Results:** The prevalence of chronic insomnia complaints was 56.8% (33/58); anxiety symptoms 65.5% (38/58); depressive symptoms 75.9% (44/58) with variations in distribution by gender. **Conclusion:** The prevalence of chronic insomnia complaints measured was found to be high in the population of hospitalized alcoholics. These patients deserve medical care and treatment for sleep disorders in their rehabilitation plan. Further research allowing the extension of the obtained results is needed.

**Descriptors:** Alcoholism; Prevalence; Sleep initiation and maintenance disorders; Alcohol-related disorders; Hospitalization

### Resumen

**Objetivo:** Estimar la prevalencia de quejas de insomnio en alcohólicos hospitalizados para desintoxicación en Bogotá. **Método:** Estudio observacional, descriptivo y transversal en una muestra de pacientes alcohólicos hospitalizados. Información recogida mediante entrevista clínica e instrumentos de medición validados localmente: Índice de calidad de sueño de Pittsburg, Zung de ansiedad y depresión. **Resultados:** La prevalencia de quejas de insomnio crónico fue 56,8% (33/58), de síntomas ansiosos 65,5% (38/58), depresivos 75,9% (44/58) con variaciones en la distribución por géneros. **Conclusión:** La prevalencia de quejas de insomnio crónico encontrada fue elevada en la población de alcohólicos hospitalizados. Estos pacientes merecen atención y tratamiento médico para las alteraciones del sueño en su plan de rehabilitación. Se necesitan investigaciones futuras que permitan ampliar los resultados obtenidos con este estudio.

**Palabras clave:** Alcoholismo; Prevalencia; Trastornos de la iniciación y mantención del sueño; Trastornos relacionados con alcohol; Hospitalización

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## Introduction

Chronic insomnia is one of the most frequent mental health problems in our times. The International Classification of Sleep Disorders includes insomnia as a key symptom in several sleep alterations especially described in the dyssomnia chapter.<sup>1</sup> Its etiology is diverse and nearly 100 causes are mentioned. Half of them are attributed to be of psychiatric origin given by anxiety, depressive and psychoactive substance use disorders. The other half is related to primary sleep alterations, such as the sleep apnea-hypopnea syndrome, the restless legs syndrome and periodical limb movement disorder, especially. A Colombian study has found a prevalence of chronic insomnia in the general population (n = 1505) of 26.2% (95%CI 23.7;28.7), who reported having at least one symptom of insomnia and the consequences of insomnia during the following day.<sup>2</sup>

Insomnia is classified according to its cause, duration, severity and nature.<sup>3</sup> The general rule is to use its duration to classify it. Insomnia that lasts for a few days is called occasional. If it lasts for a few weeks is called transient insomnia and if it lasts for more than four weeks is called chronic insomnia, which can be primary or secondary. Regarding the severity, it can be mild, moderate or severe. As for its nature, if it is present at the beginning of the sleep is called early insomnia, if awakenings occur during the night it is called multiple awakening or middle insomnia, if it occurs before the normal awakening is called early awakening or late insomnia. It can be also global or partial, frequent or intermittent, according to the occurrence and frequency.<sup>4</sup> The association between chronic insomnia and alcoholism has been acknowledged and the latter has been proposed as a risk factor for such addiction. The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV-TR) of the American Psychiatric Association describes alcohol as "the most frequently consumed brain depressing substance" in most of the societies and "an important cause of morbidity and mortality".<sup>5</sup> The extension of alcohol-related problems in the United States is well known and has become the most frequent substance-related problem, being the third most severe health problem in that country.<sup>5-7</sup>

In patients with alcohol-related disorders, other substance-related disorders, antisocial personality disorder, affective disorders, anxiety and sleep disorders are the comorbidities more frequently found.<sup>8-11</sup> Although alcohol consumed at night usually produces somnolence thus reducing sleep latency, it has also adverse effects on sleep architecture: it fragments sleep, reducing REM and deep sleep, generating longer multiple awakenings.<sup>12-15</sup>

The aim of this study was to determine the frequency of complaints of chronic insomnia associated with alcoholism in a population of alcoholics hospitalized for detoxification in Bogota, given its health, working, economic, and social functioning consequences.

## Method

This is an observational, descriptive and cross-sectional study developed in hospitalized alcoholics in the Fundar and Nuestra Señora de la Paz clinics in Bogota. It was calculated a sample of 58 patients, considering a prevalence of the phenomenon of 0.67, being 0.60 the minimal prevalence found in the literature, with a maximal error of 0.01, with a 99% confidence level and a target population of 88 patients given by the number of alcoholics yearly discharged from these clinics. Ten percent were added to take into account the non-responses.

The sample was stratified by clinic of origin, by assigning the number of patients per institution and afterwards interviewing

**Table 1 – Characteristics of the alcoholic population studied**

Variable	Classification	%	N
Population	Target	100	88
	Sample	100	58
Marital status	With a spouse	38	22
	Without a spouse	62	36
Socioeconomic stratum	Low	24	14
	Middle	62	36
	High	14	8
Age (mean/years)		38.2	
Standard deviation (years)		10.3	

the subjects who accepted to participate. They were given a questionnaire to fill in which contained instructions, general data, and instruments validated in Colombia: the Zung Self-rating Anxiety and Depression and the Pittsburgh Sleep Quality Index scales (ICSP-VC).<sup>16,17</sup> The population's characteristics are shown in Table 1.

The ICSP is a self-administered scale. It is composed of 19 items self-rated by the patient, in which are analyzed the different factors that determine the sleep quality, grouped in seven domains: sleep quality, sleep latency, sleep duration, sleep efficiency (adequate > 85% taking into account the time of remaining in bed and the total sleeping time), sleep alterations, use of sleep medication and day dysfunction. It has a high internal consistence, and adequate sensitivity and specificity.<sup>18</sup> The ICSP-VC has an internal consistence (Cronbach's alpha = 0.78) and a cutoff point of 5 (> 5 = bad sleepers or bad quality of sleep).<sup>17</sup> The Zung's anxiety and depression tests have been used as instruments to identify possible cases of anxiety and depression among individuals hospitalized due to medical diseases and in the general population.<sup>19</sup> In this study we applied the local versions used in the Mental Health National Study.<sup>16</sup>

Subjects aging between 18 and 50 years, those who met the DSM-IV-TR criteria for alcoholism and who were under treatment with psychotropic medication and/or psychotherapy and had anxiety and/or depression as measured by the Zung Test were included, after giving their informed consent. We excluded subjects with cognitive or psychotic disorders and/or with manic symptoms, dependence and/or abuse of substances other than alcohol, caffeine and tobacco assessed by means of a clinical interview.

The data were processed by the statistical software Stata 6, being used descriptive measures of central tendency and dispersion for the measurements as well as for their proportions. This study was approved by the Department of Psychiatry and the Medical Ethics Committee of the Medical School of the Universidad Nacional de Colombia and followed the recommendations of the Helsinki Declaration of 1975 and its revised version of 2000.

## Results

A population of 58 alcoholics was obtained, of whom 78% (45/58) were males. The majority of the subjects had anxious and depressive symptoms, being altered the total score of the ICSP-VC. The ICSP-VC's domains were altered in most subjects (see table II). Anxiety was more frequent among women, 84.6% (11/13), as compared to men, 60% (27/45), whereas depression was equally distributed, 76.9% (10/13) among women and 75.6% (34/45) among men.

The ICSP-VC was altered among all women (100%, 13/13) and most men, 88.9% (40/45). The subjective sleep quality was most frequently reported as altered among women (61.5%, 8/13), as compared to men (37.7%, 17/45). Longer sleep latency was

**Table 2 – Sleep quality, anxiety and depression in hospitalized alcoholics in Bogota**

Variables	Men (n = 45)		Women (n = 13)		p value*
	%	N	%	N	
Altered subjective sleep quality	37.7	17	61.5	8	0.203
Prolonged sleep latency (> 30min)	51.1	22	100.0	13	0.001
Decreased sleep duration (< 7h)	57.8	26	69.2	9	0.534
Sleep efficiency (< 85%)	40.0	18	53.8	7	0.526
Consumption of hypnotics	26.7	12	69.2	9	0.008
Day dysfunction	35.5	16	61.0	8	0.118
Rate of sleep quality (Pittsburg > 5)	88.9	40	100	13	0.057
Zung's anxiety (> 40)	60	27	84.6	11	0.184
Zung's depression (> 40)	75.6	34	76.9	10	1.000

\* Fisher's exact test

reported by all women (100%, 13/13) and most men (51.1%, 23/45). Shorter sleep duration was reported by most subjects, among men by 57.8% (26/45), and among women by 69.2% (9/13). The decrease in sleep efficiency was reported by most men (60%, 27/45), but not by most women (46%, 6/13). Among women, the consumption of hypnotics was higher (69.2%, 9/13) as compared to men (26.7%, 12/45). Day dysfunction was reported by most women (61%, 8/13) but not among men (35.5%, 16/45).

According to the total score in the ICSP-VC, most alcoholics studied needed treatment. Nine percent (5/58) had no sleep problems, 29% (10/58) needed medical care, 45% (26/58) needed medical care and treatment and 17% (10/58) had a severe sleep problem.

Some associations were explored, taking into account the limitations given by the study design. The following associations were not statistically significant: between sleep disorder and depression:  $RP = 0.77$ , Fisher's test with one-tail  $p = 0.6518$ ; between sleep disorder and anxiety:  $RP = 3.18$ ;  $95CI\% 0.38; 30.61$ ; Fisher's test with one-tail  $p = 0.2185$ ; between use of hypnotics and depression:  $RP = 1.03$ ;  $95CI\% [0.25; 4.32]$ ;  $X^2 < 0.01$  ( $p = 0.965$ ), and between use of hypnotics and anxiety:  $RP = 3.24$ ;  $95CI\% 0.80; 14.13$ ;  $X^2 = 3.47$  ( $p = 0.062$ ). Finally, it was found that all alcoholics with sleep disorder [91.4% (53/58)] consumed hypnotics and only 8.6% (5/58) who had not reported sleep disorders did it.

### Discussion

The sample obtained in this study had similar characteristics to the target population. The findings regarding the sleep alterations in the sample are in accordance with the ones in other studies,<sup>7,20</sup> in which the prevalence of insomnia in alcoholics ranges between 36% and 61%; in our study sleep efficiency, the most objective marker of insomnia, was disrupted in 56.8% (33/58) of the interviewees. When analyzing sleep efficiency in women, 46% (6/13) reported it being altered as compared to 60% (27/45) of men, being this in accordance with the literature.<sup>10</sup>

The report of a lower proportion of alteration in sleep efficiency in women can be explained by their higher consumption of non specified hypnotics.<sup>17,20</sup> Anxious and depressive symptoms were reported by most interviewees, and the presence of these symptoms per se can produce sleep alterations, but alcohol consumption also produces both alterations and worsens sleep problems.<sup>21</sup> In the sample as well as in the general population, there is a tendency of women having a higher consumption of hypnotics, 69%, (9/13), as compared to 25% (12/45) of men, although the bad quality of sleep was present in both genders, 83% (37/45) among men and 100% (13/13) among women.

This is what may have occurred in this sample, as there was no statistical association between sleep disorders and the presence of anxious and depressive symptoms and it is known that alcohol alone produces alterations in the sleep architecture, which are evidenced by polysomnography, such as the reduction of the total sleeping time, of REM sleep and reduced deep sleep. Of note, in this study all alcoholics consumed hypnotics at the time they reported sleep disorders.

In our sample, 37.7% (17/45) of men have reported a bad subjective quality of sleep, being lower than what was reported for the other markers of insomnia, which might be attributed to the patients' subjective component or altered perception due to alcohol consumption and to the popular belief on alcohol's hypnotic effect.

Day dysfunction, understood as the difficulties patients could have had, due to sleep alteration, to develop activities such as driving, eating, working, studying or any other social activity was reported by 35.5% (16/45) of men, what can be associated with the difficulty of relating the state of alcoholic intoxication to the day dysfunction and decrease the importance of sleeping bad during the night.

The prevalence of complaints of chronic insomnia using as a marker the sleep efficiency of the ICSP-VC was reported in 56.8% (33/58) of the interviewees, above the prevalence of insomnia among the Colombian general population and in accordance to the findings in alcoholics.<sup>2</sup> The domains sleep subjective quality, latency, duration and efficiency, consumption of hypnotics and day dysfunction of the ICSP-VC used as insomnia markers were altered in a frequency much higher than that expected for the Colombian general population and according to what has been reported in the literature.<sup>22,23</sup> The anxious and depressive symptoms presented with higher frequency in the patients evaluated, similarly to what was expected among alcoholics.<sup>20</sup>

According to the high prevalence of chronic insomnia found with the ICSP-VC in the studied population, alcoholics deserve medical care and treatment for their sleeping problem within their therapeutic plan. Further studies should be designed as to find a causal association between alcoholism and chronic insomnia complaints in order to help predicting relapses of alcohol consumption due to sleep disturbances. Studies are also needed to assess the quality of treatment, taking into account insomnia's therapeutic, due to its high frequency.

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## Disclosures

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Franklin Escobar-Córdoba	Universidad Nacional de Colombia	-	-	-	-	-	-
Juan David Ávila-Cadavid	Universidad Nacional de Colombia Clínica San Pedro Claver Empresa Social del Estado Luis Carlos Galán	-	-	-	-	-	-
Miguel Cote-Menendez	Universidad Nacional de Colombia	-	-	-	-	-	-

\* Modest

\*\* Significant

\*\*\* Significant. Amounts given to the author's institution or to a colleague for research in which the author has participation, not directly to the author. For more information, see Instructions for authors.

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